part shows its independence of the whole. Similarly, a foreleg transplanted in a salamander to the place of the hind limb grows as a foreleg ; and if later it is amputated, a foreleg is regenerated on the site of the hind limb.

In short, many varied results of transplantation and grafting have been recorded, in some cases in conformity with the holistic principle, in others not, but showing rather local independence of parts. The dominance of the whole is imperfect; there would seem to be conflicts of parts against dominance of the whole.

The development of sarcomas and cancers seems to illustrate such successful rebellion of parts.

(7) The cultivation of a piece of tissue *in vitro* is difficult to reconcile with the holistic principle. Long ago W. H. Gaskell showed that an isolated strip of heart-muscle may continue to f beat' for many hours. More recently, A. Carrell and others have shown that bits of tissue may grow indefinitely in suitable media and conditions. Even an eye-rudiment may thus develop almost normally *in vitro.*

In view of such experimental facts, it must, I think, be the verdict of the impartial that the organicists or holists of this group have greatly overstated the degree of unity of the organism, in a way which is inconsistent with a multitude of facts. And having asserted the wholeness at the cost of wide departure from the truth, they have no intelligible theory of the way in which the whole governs its parts. Bertalanffy, the ardent exponent of organicism, finds himself driven to confess : ' Since, then, a physico-chemical explanation of the process in

question [morpho-genesis] is certainly impossible in the present state of our knowledge, and may be impossible in principle, we must meanwhile use for the purpose specific biological concepts